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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,928	07/20/2000	KOICHI IKEMOTO	MAT-793US	6704

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EXAMINER


LEE, KYUNG S

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/509,928	Applicant(s) IKEMOTO ET AL.	
	Examiner Richard K. Lee 	Art Unit 2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-93 is/are pending in the application.
- 4a) Of the above claim(s) 60-74, 78, 82, 83, 88 and 91 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-59, 75-77, 79-81, 84-87, 89-90 and 92-93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Currently, claims 51-59, 75-77, 79-81, 84-87, 89-90 and 92-93 are considered. Claims 60-74, 78, 82, 83, 88 and 91 are withdrawn from consideration.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 51-54, 56-58 are rejected under 35 U.S.C. 102(b) as being anticipated by Tani et al. (5,294,910).

Tani et al. teaches a low-resistance resistor comprising:

a resistor element 12 (see fig. 6) of metal sheet covered with an insulating layer 17;

a metal terminal 21a (comprising of 18a), the terminal has a groove of a width fittable to the resistor element 12;

an insulating substrate 11 of alumina (col. 3, line 27); and

a third metal 20a is inserted between the resistor element 12 and the terminal 21a.

Regarding the “metal terminal” see 20a and 21a.

Regarding “terminal coated with metal having a melting point of 500° C or below” 22a and 23a of Tin-Lead alloy is plate (col. 5, line 20). Further, current specification, page 48, line 1 lists Tin-Lead alloy having a melting point of 500° C or below.

Regarding the “conductivity” the terminal would inherently have equal or greater conductivity than the resistor element.

Regarding claim 52, the terminal 18a (T+T; see fig. 6 attached to this action) is thicker than the thickness of the resistor element 12.

Regarding claims 53-54, see fig. 6, insulating layer 17 covers the resistor.

Regarding claim 58, insulating layer 17 covers a part of the resistor element 12 (see fig. 6).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 54, 59 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tani et al. in view of Smith et al. (5,379,016).

Tani et al. teaches the claimed invention except for the insulating layer completely covering the resistor element.

Smith et al. teaches providing an insulating layer 4 completely covering the resistor element 3 (see fig. 2) to protect the resistor element (see col. 2, line 66).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the resistor element of Tani et al. with the insulating layer as taught by Smith et al., since the covering layer of Smith et al. would provide the resistor element of Tani et al. with environmental protection as well as provide mechanical strength.

Regarding claims 59 and 85, Tani et al. teaches the claimed invention except for the terminal thickness being at least three times the sum of thickness of the resistor and the substrate.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to discover an optimum or workable ranges, since discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

5. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tani et al. in view of Kimura et al. (5,907,274).

Tani et al. teaches the claimed invention except for the insulating layer being made of epoxy resin.

Kimura et al. teaches a resistor device having epoxy resin layer 4 covering the resistor 3 to provide a protective layer to the resistor (col. 6, lines 45-50).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the resistor device of Tani et al. with the epoxy resin layer as taught by Kimura et al., since the resin layer of Kimura et al. would provide the resistor device of Tani et al. with a protective layer.

6. Claims 75-77, 79-81, 84, 86-87, 89-90 and 92-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tani et al.

Regarding claims 75-76, 79-81, 86 and 89 Tani et al. teaches the method of manufacturing, the method including:

forming a resistor element 3 with a predetermined resistance (see col. 5, line 63 to col. 6, line 50);

metal terminal with a groove (see fig. 1);

third metal layer 2 formed on the resistor element;

fitting the terminal to the resistor element on both sides;

insulating layer 4 formed after connecting element to the terminal;
printing third metal layer 2;
coating the resistor with a metal different (copper, col. 11, line 29) from the
resistor and the terminal (nickel);
trimming the resistor; and
heating and/or pressing.

Regarding claims 92-93, Tani et al. teaches plating, see col. 5, lines 20-30.

Steps claimed are deemed obvious in view of the functions of the structure in the combination discussed above.

Response to Arguments

7. Applicant's arguments with respect to claims 51-59, 75-77, 79-81, 84-87, 89-90 and 92-93 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard K. Lee whose telephone number is (703) 306-9060. The examiner can normally be reached on Mon. to Fri. 5:30AM to 2:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (703) 308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

Richard K. Lee
Examiner
Art Unit 2832

